

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number  
**WO 2004/027279 A1**

(51) International Patent Classification<sup>7</sup>: **F16D 41/067 //**  
A61G 5/02

(21) International Application Number:  
PCT/SE2003/001454

(22) International Filing Date:  
17 September 2003 (17.09.2003)

(25) Filing Language: Swedish

(26) Publication Language: English

(30) Priority Data:  
0202774-6 19 September 2002 (19.09.2002) SE

(71) Applicant and

(72) Inventor: **HENRIKSSON, Bengt-Åke** [SE/SE]; Skolvä-  
gen 4, S-376 35 Svängsta (SE).

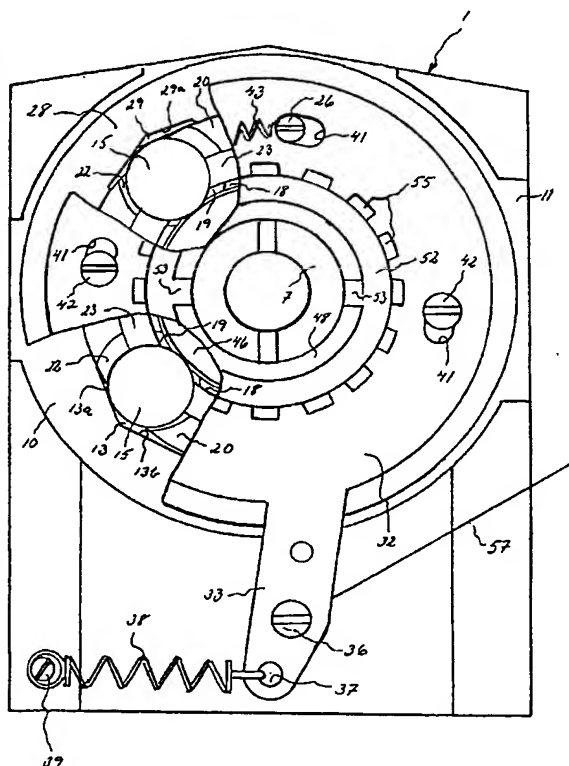
(74) Agent: **AWAPATENT AB**; Box 5117, S-200 71 Malmö  
(SE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: **FREE-WHEELING HUB DEVICE**



(57) **Abstract:** A freewheel hub device comprises two locking rings (10, 28) with axial grooves (13, 29) formed in the locking rings and being essentially V shaped in cross-section. The groove walls of one locking ring (10) form a first and a second wedge surface (13a and 13b), and one groove wall of the other locking ring (29) forms a third wedge surface (29a). A roll holder (14) with rolls (15), which extend into the grooves (13, 29) of the locking rings (10, 28), is mounted in the locking rings (10, 28). A hub (45) is rotationally arranged in the roll holder (14) and has a circumferential surface (47) for cooperation with the rolls (15). The locking rings (10, 28) and the roll holder (14) are turnable relative to each other in a limited manner and can take three different setting positions relative to each other, in which the wedge surfaces (13a, 13b, 29a) in different combinations force the rolls (15) into engagement with the circumferential surface (47) of the hub (45) to prevent the rotation of the hub in one direction (A), the other direction (B) or both directions (A and B), and a fourth setting position, in which the hub (45) can rotate freely in both directions.

WO 2004/027279 A1